



# CITY OF NEWPORT BEACH

## BUILDING DEPARTMENT

3300 NEWPORT BLVD.  
P.O.BOX 1768, NEWPORT BEACH, CA 92658  
(949) 644-3275

### **RESIDENTIAL FIRE SPRINKLER PLAN CORRECTION LIST**

Project Description:

Project Address:

Plan Check No.:

Date Filed:

No. Stories:

Use:

Occupancy:

Const. Type:

Architect/Engineer:

Phone:

Owner:

Phone:

Submitted Valuation:

Checked by:

Phone: (949) 644-32

Permit Valuation:

☒  
☐

1<sup>st</sup> Check

☐

2<sup>nd</sup> Check

☐

3<sup>rd</sup> Check

4<sup>th</sup> Check\*

**\*NOTE: Do not resubmit after the 3<sup>rd</sup> plan check. Call plan check engineer for an in-person recheck appointment.**

**WARNING: PLAN CHECK EXPIRES 180 DAYS AFTER SUBMITTAL.  
THIS PLAN CHECK EXPIRES ON:**

**Approval of plans and specifications does not permit violation of any section of the Building Code or other City ordinances or State law.**

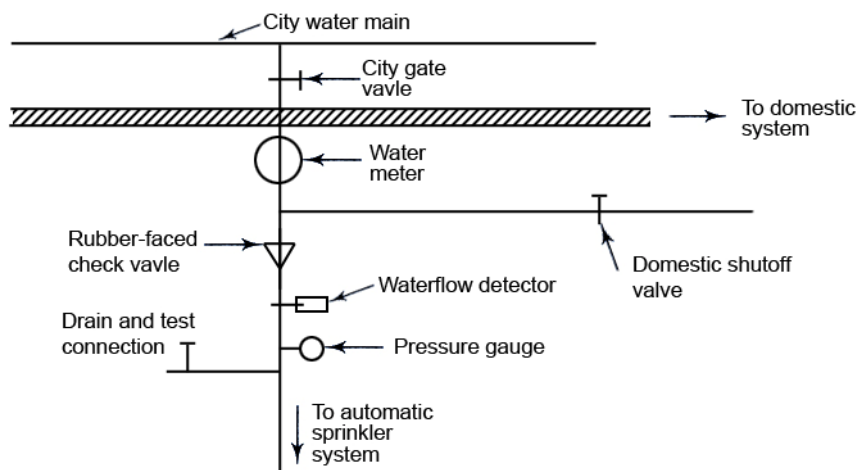
**This plan check is according to 2007 California Building Code.**

**Note:** This correction list is applicable to R3 occupancy (one & two dwelling units).  
(NFPA 13D, 1999 Edition)

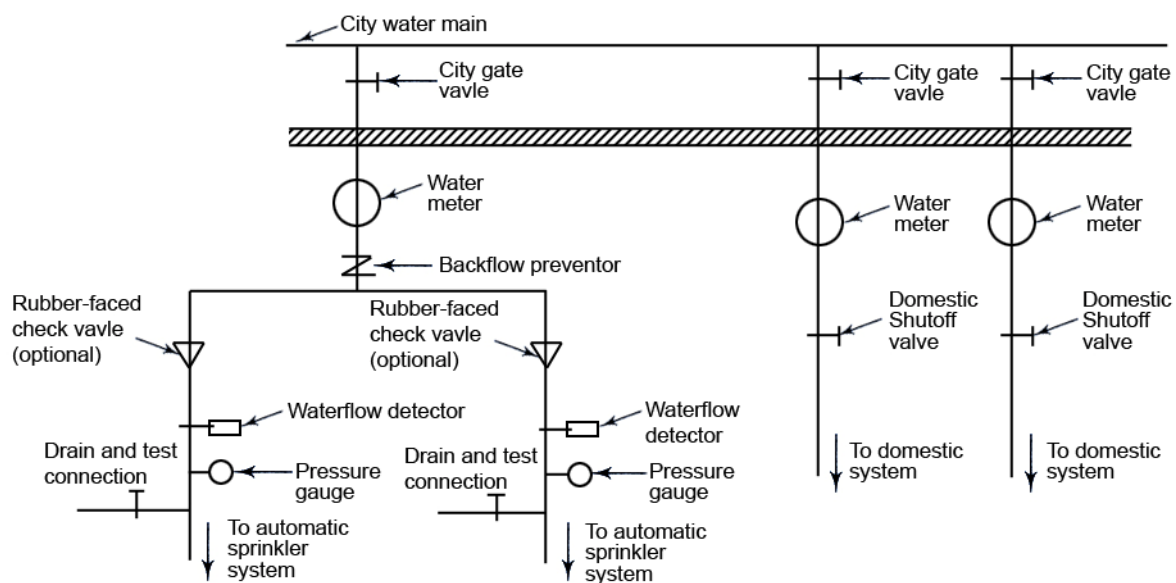
- Make all corrections listed below.
  - Return this correction sheet and check prints with corrected plans.
  - Indicate how each correction was resolved.
1. For a deferred submittal the architect or designer in charge shall certify that the floor plan on fire sprinkler drawings is consistent with the architectural or designer drawings. CBC 106.1.3 (Architect/designer is not certifying the fire sprinkler design.)
  2. Floor plan on fire sprinkler drawings to match architectural or designer drawings. Architect or designer to stamp fire sprinkler drawings to certify that floor plans are consistent. (Architect/designer is not certifying the fire sprinkler design.)
  3. Sprinkler Drawings must be prepared, stamped and signed by a licensed civil, mechanical, or fire protection engineer or by a licensed sprinkler contractor holding a valid C-16 license.
  4. Specify the name, license number, address and phone number of the preparer of the sprinkler drawings.

5. See riser assembly details below. Riser assembly to include:
- Main control valve, which controls the sprinkler system & domestic water supply.
  - Domestic water supply valve, which controls the domestic water supply only.
  - Pressure gage
  - Check valve
  - Water flow switch
  - Test/drain valve
  - Type of backflow preventer to be approved by the Utilities Department.

### **SINGLE-FAMILY - SPRINKLER RISER ASSEMBLY**



### **DUPLEX – SPRINKLER RISER ASSEMBLY**



6. Obtain a certificate of available water flow information from the Utilities Department, Alex Soto (949) 718-3410. Print the water flow certificate onto the plans.  
**Exception:** Alterations and additions to residences that are equipped with fire sprinklers installed in accordance with NFPA 13D, and the alteration/addition does not exceed 50% of the existing square footage of the residence within the immediate past 24 months. These projects would be exempt and may use the water pressure gauge value indicated on the existing fire sprinkler riser in lieu of obtaining a current water flow test.
7. Provide water supply test data and pressure/flow curve. Indicate on the plans the size of existing or proposed water meter. 1" minimum water meter required on combination system.
8. Show location of fire alarm bell(s) and provide the following items as notes on the plans:
  - a. On exterior of building (NBMC Section 903.3.1.2.2, local amendment to NFPA 13-D, Section 7.6)
  - b. Within the building. Alarm to be audible in all rooms inside the dwelling. Sound level in sleeping rooms with all intervening doors closed shall be a minimum of 15 dBA. Above average ambient sound level but less than 75 dBA.  
**Exception:** When a low voltage fire alarm system is installed, smoke detectors may be used to sound all alarms concurrently (NBMC Section 903.3.1.3.2, local amendment to NFPA 13-D, Section 7.6).
9. Specify all system components:
  - a. Pipe, NFPA 13-D tables 5.2.1 and 5.2.2.2.
  - b. Fittings, NFPA 13-D tables 5.2.5 and 5.2.9.2.
  - c. Provide the specifications and listing for sprinkler heads, hangers and braces.
10. Provide a sprinkler layout plan for each floor. Specify:
  - a. Pipe size
  - b. Sprinkler location
  - c. Hanger location
11. Sprinklers to be listed for residential use and spaced per their listing (NFPA 13-D Section 8.1.3.1).
12. Position sprinklers per their listing or for unlisted sprinklers (NFPA 13-D Section 8.2.2.1):
  - a. Pendent and upright: Deflector 1-4 inches below ceiling.
  - b. Sidewall sprinkler: Deflector 4-6 inches below ceiling
13. Provide sections through rooms with sloping ceiling showing the location of sprinkler heads. Verify sprinkler head is listed for sloped ceiling.
14. Provide sprinkler legend on the plans. Legend shall include symbol, count, type, finish, temperature, K-factor, manufacturer, model, and sprinkler identification number (S.I.N.)
15. Print sprinkler head technical sheets onto the plans.
16. Sprinklers installed where maximum ambient ceiling temperatures do not exceed 100 F. shall be ordinary temperature-rated sprinklers. (135-170F.) (NFPA 13-D section 7.5.5.1)
17. Sprinklers installed where maximum ambient ceiling temperatures are between 101 F. and 150 F. shall be intermediate-rated sprinklers (175-225F.) (NFPA 13-D section 7.5.5.2). Examples are skylights and unventilated attics.

18. Using computer methods or (NFPA 13-D Section 8.4.4), provide hydraulic design calculations for water flow and pressure demand. The fire sprinkler system shall be designed to provide a margin for future loss by reducing both the static and residual design pressures by either of the following methods. ("a" or "b" below):
    - a. 10% of the static pressure when the static pressure does not exceed 100 p.s.i.
    - b. The pressure indicated by the Fire Sprinkler Water Availability Reduction Graph if the static pressure exceeds 100 p.s.i. (See Fire Department Guideline – F.02)

Typical reductions would be 14%@110 p.s.i., 18%@120 p.s.i., 22%@130 p.s.i., 26%@140 p.s.i., and 30%@150 p.s.i. and over.
  19. For sprinkler system design with sprinklers that are not listed, the system shall provide a discharge of not less than 13 gpm per sprinkler simultaneously to all of the design sprinklers (NFPA 13-D, 8.1.1.1.1)
  20. For sprinklers that are listed with specific discharge criteria, the system shall provide a minimum discharge density of 0.05 gpm/sq.ft. (NFPA 13-D, 8.1.1.2.2)
  21. Minimum pipe size to be (NFPA 13-D Section 8.4.3.1 / 8.4.3.2.):
    - a. 1" Ø for steel
  22. 3/4" Ø for Copper (Cu), chlorinated polyvinyl chloride (CPVC), and polybutylene (PB)
  23. For ancillary buildings and structures, sprinklers may be omitted from open attached porches, open trellis, open shade covers and similar open structures when approved by the fire code official. Attached garages and carports shall be protected with listed quick response fire sprinklers spaced to protect a maximum area of 130 square feet (12.08 m<sup>2</sup>). The diameter of the main or cross-main piping serving the lines in the garage shall be equal to the largest diameter piping on any main or cross main within the system.
- All attics shall be protected with intermediate temperature quick response heads which shall be located to protect attic penetrations created by access scuttles or mechanical equipment.  
NBMC Section 903.3.1.3.3
24. Although exempted by NFPA 13-D, provide sprinklers in the following locations per NBM Section 903.3.1.3.3, Fire Code amendments to (NFPA 13-D section 8.6):
    - a. Attached garage and carports
    - b. Attics at access openings and at mechanical equipment (Intermediate heads)
    - c. Entrance foyers
  25. Provide sprinkler in bathrooms where the area exceeds 55 sq. ft. (NFPA 13-D Section 8.6.2)
  26. Provide sprinkler in storage closet, linen closets and pantries where the least dimension is larger than 3ft., or the area is larger than 24 sq.ft. (NFPA 13-D section 8.6.3)
  27. Add the following note to the plans: "The fire sprinkler installer shall provide to the owner/occupant instructions on inspecting, testing and maintaining the system" (NFPA 13-D, section 4.2.1)
  28. Write the following notes from [NFPA 13-D section 6.3(6)(7)] on the plans:
    - A. "A sign shall be affixed adjacent to the main shut-off valve that states in minimum 1/4-inch letters, "Warning, the water system for this home supplies a fire sprinkler system that depends on certain flows and pressures being available to fight a fire. Devices that restrict the flow or decrease the pressure such as water softeners shall not be added to this system without a review of the fire sprinkler system by a fire protection specialist. Do not remove this sign."

- B. "Devices that restrict the flow or decrease the pressure such as water treatment and filtration equipment shall not be added to the system."
- 29. Plans are incomplete, additional corrections may apply, following submittal and review of revised plans.
- 30.
- 31.